

PTO/SB/08A (10-01)

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control Number.

Substitution for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)				Complete if Known	
				Application Number	10/606,690
				Filing Date	06/26/2003
				First Named Inventor	Taylor-Smith
				Art Unit	1796
				Examiner Name	Matochik
				Attorney Docket Number	100.2490
Sheet	1	of	3		

[illegible][illegible]

Examiner Signature	/Thomas Matochik/	Date Considered	12/13/2007
-----------------------	-------------------	--------------------	------------

* **EXAMINER:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹Applicant's unique citation designation Number (optional). ²See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial Number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.**



PTO/SB/08B (10-01)

Approved for use through 10/31/2002. OMB 0851-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control Number.

Substitute for form 1449B/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Complete if Known	
		Application Number	10/606,690
		Filing Date	06/26/2003
		First Named Inventor	Taylor-Smith
		Art Unit	1796
		Examiner Name	Matochik
Sheet 2	of 3	Attorney Docket Number	100.2490

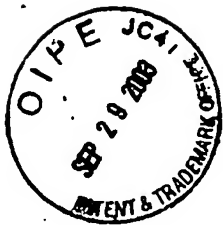
OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue Number(s), publisher, city and/or country where published.	T ²
/T.M./	14	AINSLIE, A Review of the Fabrication and Properties of Erbium-Doped Fibers for Optical Amplifiers, Journal of Lightwave Technology, Feb. 1991, Page(s) 220-227, Volume 9, Number 2	
/T.M./	15	CHOI ET AL., Amorphous Polysilsesquioxanes as a Confinement Matrix for Quantum-Sized Particle Growth: Size Analysis and Quantum Size Effect of CdS Particles Grown in Porous Polysilsesquioxanes, J. Phys. Chem., 1994, Page(s) 3207-3214, Volume 98, Number 12	
/T.M./	16	CHOI ET AL., New Materials for Synthesis of Quantum-Sized Semiconductors and Transition-Metal Particles: Microporous Polysilsesquioxanes as a Confinement Matrix for Particle Growth, Chem. Mater., 1993, Page(s) 1067-1069, Volume 5, Number 8	
/T.M./	17	CHOI ET AL., New Procedures for the Preparation of CdS and Heterogeneous Cr/CdS Phases in Hybrid Xerogel Matrices: Pore Structure Analysis and Characterization, J. Phys. Chem., 1995, Page(s) 4720-4732, Volume 99, Number 13	
/T.M./	18	CHOI ET AL., Preparation of Nano-Sized Chromium Clusters and Intimate Mixtures of Chromium/CdS Phases in a Porous Hybrid Xerogel by an Internal Doping Method, J. Am. Chem. Soc., 1994, Page(s) 9052-9060, Volume 116, Number 20	
/T.M./	19	DEJNEKA ET AL., Rare-Earth-Doped Fibers for Telecommunications Applications, MRS Bulletin, Sept. 1999, Page(s) 39-45, Volume 24, Number 9	
/T.M./	20	DUTTON, Optical Devices, Understanding Optical Communications, Page(s) 189-229	
/T.M./	21	EMPEDOCLES ET AL., Photoluminescence Spectroscopy of Single CdSe Nanocrystallite Quantum Dots, Physical Review Letters, 10/28/1996, Page(s) 3873-3876, Volume 77, Number 18	
/T.M./	22	GAPONTSEV ET AL., Erbium Glass Lasers and Their Applications, Optics and Laser Technology, Aug. 1982, Page(s) 189-196	
/T.M./	23	HINES ET AL., Synthesis and Characterization of Strongly Luminescing ZnS-Capped CdSe Nanocrystals, J. Phys. Chem., 1996, Page(s) 468-471, Volume 100, Number 2	
/T.M./	24	KAGAN ET AL., Electronic Energy Transfer in CdSe Quantum Dot Solids, Physical Review Letters, 02/26/1996, Page(s) 1517-1520, Volume 76, Number 9	

Examiner Signature	/Thomas Matochik/	Date Considered	12/13/2007
--------------------	-------------------	-----------------	------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹Applicant's unique citation designation Number (optional). ²Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.



PTO/SB/08B (10-01)

Approved for use through 10/31/2002. OMB 0851-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control Number.

Substitute for form 1449B/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Complete if Known	
		Application Number	10/606,690
Sheet 3 of 3		Filing Date	06/26/2003
		First Named Inventor	Taylor-Smith
		Art Unit	1796
		Examiner Name	Matochik
		Attorney Docket Number	100.2490

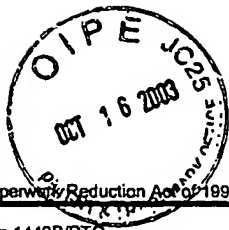
OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue Number(s), publisher, city and/or country where published.	T ²
/T.M./	25	KIK ET AL., Erbium-Doped Optical-Waveguide Amplifiers on Silicon, MRS Bulletin, April 1998, Page(s) 48-54	
/T.M./	26	KRISHNASWAMY ET AL., Optical Properties of Polymer Waveguides Dispensed on an Erbium/Ytterbium Codoped Glass, IEEE Journal of Selected Topics in Quantum Electronics, June 1998, Page(s) 373-377, Volume 2, Number 2	
/T.M./	27	LOCHHEAD ET AL., Rare-Earth Clustering and Aluminum Codoping in Sol-Gel Silica: Investigation Using Europium(III) Fluorescence Spectroscopy, Chem. Mater., 1995, Page(s) 572-577, Volume 7, Number 3	
/T.M./	28	LOY ET AL., Sol-Gel Synthesis of Hybrid Organic-Inorganic Materials: Hexylene- and Phenylene-Bridged Polysiloxanes, Chem. Mater., 1996, Page(s) 656-663, Volume 8, Number 3	
/T.M./	29	MURRAY ET AL., Self-Organization of CdSe Nanocrystallites into Three-Dimensional Quantum Dot Superlattices, Science, 11/24/1995, Page(s) 1335-1338, Volume 270	
/T.M./	30	STECKL ET AL., Photonic Applications of Rare-Earth-Doped Materials, MRS Bulletin, Sept. 1999, Page(s) 16-17, Volume 24, Number 9	
/T.M./	31	TAYLOR-SMITH ET AL., Erbium-Doped Polysilsesquioxane Molecular Composite Systems, Proceedings of the American Chemical Society Division of Polymeric Materials: Science and Engineering, Aug. 2000, Page(s) 237-238, Volume 83, Publisher: American Chemical Society	
/T.M./	32	URQUHART, Review of Rare Earth Doped Fibre Lasers and Amplifiers, IEE Proceedings, Dec. 1988, Page(s) 385-407, Volume 135, Pt. J, Number 6	
/T.M./	33	ZYSKIND ET AL., Erbium-Doped Fiber Amplifiers and the Next Generation of Lightwave Systems, AT&T Technical Journal, Feb. 1992, Page(s) 53-62	

Examiner Signature	/Thomas Matochik/	Date Considered	12/13/2007
--------------------	-------------------	-----------------	------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹Applicant's unique citation designation Number (optional). ²Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.



Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PTO/SB/08B (06-03)
Approved for use through 06/30/2003. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Complete if Known	
		Application Number	10/606,690
		Filing Date	06/26/2003
		First Named Inventor	Taylor-Smith
		Art Unit	2874 1796
		Examiner Name	Matochik
Sheet 1 of 1	Attorney Docket Number	100.2490	

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
/T.M./	1.	DESURVIRE, The Golden Age of Optical Fiber Amplifiers, Physics Today, January 1994, Page(s) 20-27, Volume 47	
/T.M./	2.	DIGIOVANNI, Materials Aspects of Optical Amplifiers, Mat. Res. Soc. Symp. Proc., 1992, Page(s) 135-142, Volume 244, Publisher: Materials Research Society	
/T.M./	3.	HANNA, Fibre Lasers, Solid State Lasers: New Developments and Applications, 1993, Page(s) 231-245, Edited by Inguscio et al., Publisher: Plenum Press, Published in: New York	
/T.M./	4.	LEE ET AL., Ion Clustering and Crystallization of Sol-Gel-Derived Erbium Silicate Glass, J. Mater. Sci. Lett., 1994, Page(s) 615-617, Volume 13	
/T.M./	5.	LOY ET AL., Bridged Polysilsesquioxanes: Highly Porous Hybrid Organic-Inorganic Materials, Chem. Rev., 1995, Page(s) 1431-1442, Volume 95	
/T.M./	6.	SANCHEZ ET AL., Design of Hybrid Organic-Inorganic Materials Synthesized via Sol-Gel Chemistry, New J. Chem., October 1994, Page(s) 1007-1047, Volume 18	
/T.M./	7.	STONE ET AL., In Situ Dehydroxylation in Eu ³⁺ -Doped Sol-Gel Silica, Chem. Mater., 1997, Page(s) 2592-2598, Volume 9	

Examiner Signature	/Thomas Matochik/	Date Considered	12/13/2007
--------------------	-------------------	-----------------	------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.
*Applicant's unique citation designation number (optional). ²Applicant is to place a check mark here if English language Translation is attached.
This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



PTO/SB/08b (08-03)

Approved for use through 06/30/2008. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)	Substitute for form 1449B/PTO		Complete If Known		
	Application Number		10/606,690		
	Filing Date		JUNE 26, 2003		
	First Named Inventor		TAYLOR - SMITH		
	Art Unit		2874 1796		
	Examiner Name		MATOCHIK		
Sheet	/	of	/	Attorney Docket Number	10000.011

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
/T.M./		JIN, TETSURO, ET AL., "Luminescence properties of lanthanide complexes incorporated into sol-gel derived inorganic-organic composite materials", <u>J. Non-Cryst. Solids</u> , Vol. 223, pp. 123-132 (Elsevier Science B.V., 1998).	
/T.M./		REISFELD, RENATA, ET AL., "Rare earth ions, their spectroscopy of cryptates and related complexes in sol-gel glasses", <u>Optical Materials</u> , Vol. 24, pp. 1-13 (Elsevier B.V., 2003).	
/T.M./		TREJO-VALDEZ, M., ET AL., "Aerosol-gel deposition of photocurable ORMOSIL films doped with a terbium complex", <u>Optical Materials</u> , Vol. 25, pp. 179-184 (Elsevier B.V., 2004).	
/T.M./		PARK, OUN-HO, ET AL., "Indirect excitation of Er ³⁺ in sol-gel hybrid films doped with an erbium complex", <u>Appl. Phys. Lett.</u> , Vol. 82, No. 17, pp. 2787-2789 (Amer. Instit. Phys., April 28, 2003).	
/T.M./		STREK, W., ET AL., "Optical properties of Eu(III) chelates trapped in silica gel glasses", <u>Optical Materials</u> , Vol. 13, pp. 41-48 (Elsevier Science B.V., 1999).	
/T.M./		FAN, XIANPING, ET AL., "Luminescence behavior of the europium (III) complexes with hexafluoroacetylacetonate in the ORMOSIL matrices", <u>Mat. Sci. & Eng'g</u> , vol. B100, pp. 147-151 (Elsevier Science B.V., 2003).	

Examiner Signature	/Thomas Matochik/	Date Considered	12/13/2007
--------------------	-------------------	-----------------	------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.